I. Introduction

Why Organize Around Watersheds?

Watersheds are natural ecological systems containing land, water, plants, animals, and humans. All of the land that drains to the outlet of a lake, stream, or ocean is located within one watershed, and all land is located in one watershed or another. Unlike arbitrary political boundaries, watershed boundaries are delineated by the natural contours of the land and the flow of water. Water from snowmelt and rainfall flow from the high elevation boundaries of a watershed into lower elevations containing streams, lakes, oceans and other water bodies.

People are accustomed to dividing land into areas defined by man-made state and municipal boundaries. Traditional land and resource planning is organized around these city, town, and state borders. Increasingly, however, people are finding it makes more ecological sense to plan resource management around watershed boundaries. Today's most pressing environmental problems are more interconnected and complex than in the past. By treating a watershed ecosystem as an integrated whole, cumulative impacts of population and growth can be more adequately addressed. Planning around a watershed requires an understanding of how all the organisms and activities within it are connected.

The Rhode Island Watershed Partnership: Making Connections

Some of the underlying concepts that guide the Rhode Island Watershed Partnership include:

The land within a watershed has a natural connection to the water within its boundaries. When an activity takes place on the land, the water draining down the land is affected. The condition and quality of water at any point in a waterbody is directly related to activities that take place on the surrounding land.

Activities upstream have a direct impact on water quality downstream. As water flows across land and into streams and rivers, it carries pollutants along the way. The collective effects of harmful activities carried out miles upstream affect downstream communities. Rather than evaluating each negative impact separately, it is necessary to consider the cumulative impacts of these point and non-point source pollutants.

Watersheds connect communities across man-made boundaries. Because watersheds do not stop at town or state lines, residents and business people in different states and municipalities need to work together to achieve effective resource management.

Human land use decisions are connected to water quality and watershed health. How land is used- where open space is protected, how land is zoned, where industrial sites are permitted, how landfills are used and managed- has a direct and measurable impact on water quality.

Human quality of life and economic health is directly linked to environmental health. People depend on the environment for their drinking water, food, recreation and livelihood. Within

watersheds are homes, schools, and businesses. When natural resources within the watershed are degraded, the problem not only impacts the environment, but also affects quality of life and the economy.
The decisions we make today impact the future. Human actions can have long-lasting effects on the environment. The results of poor land and water use decisions may take generations to detect and repair. Conversely, careful planning and organized management can help shape the future for the common good.

The Rhode Island Watershed Partnership recognizes these connections, and attempts to address environmental management issues by planning around watershed ecosystems. This innovative approach is based on an understanding that local people's interests in land and water should be linked to decisions that affect these resources. Natural resource management is greatly enhanced by the involvement and collaboration of a wide range of people living and working in the watershed. The Watershed Partnership brings people together-local residents, businesses, town officials, and state and federal representatives- to more effectively coordinate programs, tools, and resources in order to support the sustainability of the watershed and all who live, work, and play within it.

The Rhode Island Watershed Partnership is not a new regulatory program. Instead, it is a new way of organizing existing programs and efforts that focuses on the power of stakeholder involvement and collaboration. The approach is based on two premises: that organizations and people who collaborate can be more effective than groups that work alone, and that local stakeholder interests should guide environmental management and protection The benefits of the Watershed Approach are numerous:

Benefits for Local Residents:
-Watershed partnerships build trust and enhance working relationships, providing a neutral forum where various interests can be addressed.
-Watershed partnerships help stakeholder groups target and pool together technical and financial resources.
-Through collaborative grant writing and program design, partner organizations have greater access to competitive funding sources.

Benefits for State and Federal Agencies:
-The Watershed Partnership enhances government's ability to solve complex problems associated with the cumulative effects of non-point source pollution.
-Heightened communication fostered by watershed partnerships helps expand the scope and quality of information available for government decision-making. Consequently, state and local government can more effectively coordinate and implement existing programs, and build on past efforts with creative new initiatives.

Generating an Action Plan for the Saugatucket River Watershed

The Saugatucket River Watershed Action Plan is formed from the Annual Work Plan of the Saugatucket River Heritage Corridor Coalition (SRHCC), the official watershed council for the Saugatucket River. Much of the action plan spells out issues and activities of critical importance

to this stewardship group, including two major projects – *Saugatucket River TMDL (water quality restoration plans)* and *Rose Hill Landfill Superfund Remediation Project* – that bring together many other partners working in the watershed.

Partners

Towns of North Kingstown and South Kingstown
Saugatucket River Heritage Corridor Coaltion
University of Rhode Island
Coastal Resources Management Council
RIDEM
U.S. Fish and Wildlife
Natural Resources Conservation Service
South Rhode Island Conservation District
Appalachian Mountain Club – Narragansett Chapter
Friends of the Kingston-Narragansett Bike Path
Main Street Merchants Association
Rhode Island Watershed Watch
Salt Ponds Coalition
Shadow Farm Condominium Association
South County Tourism Council
South Kingstown Chamber of Commerce
South Kingstown Historic District Commission
South Kingstown Land Trust
South Kingstown Neighborhood Congress
Sunnybrook Farm Homeowners Association
Peace Dale Neighborhood & Pond Association
University of Rhode Island.

II. Existing Watershed Conditions

The Saugatucket watershed consists of 20,100 acres that stretch across the towns of Narragansett, North Kingstown, and South Kingstown. Portions of the watershed are coastal, influencing many of the water bodies with tidal flow. The Saugatucket River, for example, remains tidal up to the Main Street dam in Wakefield. The Saugatucket River, for which the watershed was named, is a 7.5 mile stretch of river that begins in the Shermantown area of North Kingstown, runs through South Kingstown and empties into Point Judith Pond. Land use in the Saugatucket watershed is predominantly residential, with some commercial/retail and industry. Historically, some of the waters of the Saugatucket were dammed or redirected to provide drinking water or power for the area's mills. These industrial areas have since been redeveloped, improving water quality and attracting the return of wildlife, fish and recreation. Water Quality

Several areas in the Saugatucket watershed have compromised water quality. Upper Point Judith Pond is closed to shellfishing, due to high fecal coliform bacteria levels. The Saugatucket River, which flows into Point Judith Pond, was found to contain a major source of bacteria contamination near the Peace Dale Mill complex, but no discrete source was ever identified. There are dissolved oxygen problems in Saugatucket and Wakefield Ponds. Ammonia and nitrate loadings in Saugatucket Pond can probably be attributed to the Rose Hill Landfill, and Wakefield Pond receives remnants of the ammonia decay from the upstream Saugatucket River and Mitchell Brook. The Rose Hill Regional Landfill immediately impacts both the Saugatucket River and Mitchell Brook. Leachate outbreaks from the landfill have been observed along the river sediment has been found to contain chlorinated VOC's (volatile organic compounds), iron,

lead barium, manganese, and pesticides. Mitchell Brook was also found to contain VOC's, and pesticides in its sediments. Water quality impacts to Point Judith Pond can also be attributed to storm drains, industrial discharge, seasonal moorings, marinas, commercial/industrial docks, and possibly septic systems and waterfowl.

III. Action Plan

TOPIC: Surface Water and Groundwater Quality

GOALS: Clean and Plentiful Water. Fishable/Swimmable surface water bodies.

ISSUE I:	Excessive levels of bacteria and nutrients impair the Saugatucket River, Saugatucket Pond and Indian River Brook. Impacts to the diversity of aquatic life in these waters exist.

Objective 1: Restore the Saugatucket River, Saugatucket Pond and Indian River Brook.

Strategy 1.1: Complete water quality restoration plans (TMDLs) for the impaired waters of the Saugatucket River Watershed and implement the plan's recommended strategies.

Activities:

1.1.1 Complete TMDLs for bacteria, nutrients and biodiversity impacts of Saugatucket River Saugatucket Pond and Indian River Brook.

1.1.2 Examine the possibility of further water quality investigation into the Rose Hill Sewage Sludge Dump as a source of nitrates to the watershed.

Strategy 1.2: Prevent degradation of water quality and protect the watershed by controlling new nonpoint source pollution sources.

Activities:

1.2.1 Local zoning should include watershed protection measures, including but not limited to soil erosion, sedimentation and storm water controls for new commercial, residential and industrial development.

1.2.2 Local communities should be encouraged to adopt the creative land use techniques from the South County Design Manual.

Strategy 1.3: Eliminate pollution from the Rose Hill Landfill Superfund site.

Activities:

1.3.1 Implement the remediation plan for the Rose Hill Landfill Superfund Site as outlined in the Record of Decision.

TOPIC: Natural, Cultural and Recreational Resources.

GOAL: Abundant Open Space and Recreational Opportunities

ISSUE II:	The Saugatucket River Watershed faces increased development. Strategic acquisition of land within the watershed will help protect water quality, fish and wildlife habitat and historical/cultural resources that can support a wide variety of recreational uses.

Objective 2: Protect and natural, cultural and recreational resources through the acquisition of land in the watershed.

Strategy 2.1: Target land acquisitions to protect important natural, cultural and recreational resources in the watershed.

Activities:

2.1.1 Target and acquire land to expand the Saugatucket River Green Corridor.

2.1.2 Work with the University of Rhode Island to clean up and manage the Hazard Plot Forest.

Strategy 2.2: Enhance recreational opportunities within the watershed.

Activities:

2.2.1 Complete the Saugatucket River Pedestrian Walkway in the Historic Downtown Main Street District.

2.2.2 Develop an overlook park on River Street, Wakefield.

2.2.3 Develop a trail map for the watershed.

2.2.4 Obtain conservation easements for trails and rights-of-way in the watershed.

2.2.5 Continue development of a self-guided walking tour of the watershed.

TOPIC: Sustainable Economic Development

GOALS: Viable Natural Resource Based Industries. Liveable Communities.

ISSUE III: The Saugatucket Watershed boasts a prosperous history of mills and river-based industries. In the new economy, the river can again serve as the foundation of the local economy as a principal recreational resource and marketable asset to the watershed's residential and commercial growth.

Objective 3: Build a strong local economy through the promotion of the environment and heritage of the Saugatucket River.

Strategy 3.1: Promote redevelopment of old, neglected and contaminated sites in the watershed.

Activities:

3.1.1 Identify sites used for underground storage tanks and investigate opportunities for clean-up and redevelopment.

3.1.2 Focus mill village revitalization efforts on the amenities of the river.

TOPIC: Surface Water and Groundwater Quality									
Objective 1:Restore the Saugatucket River, Saugatucket Pond and Indian River Brook.									
Activity	***Action***	***Lead***	***Funding Source***	***Time period***	***Status***	***Focus Area***	***Contact Person***	***Contact Phone***	***Contact Email***
Strategy 1: Complete water quality restoration plans (TMDLs) for the impaired waters of the Saugatucket River Watershed and implement the plan's recommended strategies.									
1.1.1	Complete TMDLs for Saugatucket River (bacteria and nutrients), Saugatucket Pond (noxious aquatic plants), and Mitchell Brook (metals).	RIDEM - Water Resources	RIDEM/EPA	Final TMDL - 9/30/01	Data Assessment completed, draft TMDL in preparation.	Saugatucket River, Saugatucket Pond and Mitchell Brook	Brandon Faneuf	222-2306x7419	bfaneuf@dem.state.ri.us
1.1.1	Conduct dry and wet weather sampling to identify sources of metal in Indian Run Watershed.	RIDEM - Water Resources	RIDEM/EPA	Final TMDL 2002	Monitoring to be conducted in 2001.	Indian Run	Brandon Faneuf	222-2306x7420	bfaneuf@dem.state.ri.us
1.1.1	Begin TMDL investigations of Pt. Judith Pond in 2002.	RIDEM - Water Resources	RIDEM/EPA				Wayne Jenkins	222-4700	wjenkins@dem.state.ri.us
1.1.2	Examine the possibility of further water quality investigation into the Rose Hill Sewer Sludge Dump as a source of nitrates to the watershed.	RIDEM - Water Resources		New Activity					
Strategy 1.2: Prevent degradation of water quality and protect the watershed by controlling nonpoint source pollution through the development process.									
1.2.1	Local zoning should include watershed protection measures, including but not limited to soil erosion, sedimentation and storm water controls for new commercial, residential and industrial development.	Saugatucket River Heritage Corridor Coalition (SRHCC)	Potential 319 funding for RIPDES Phase II requirements (I.e. stormwater mgt).		Ongoing				
1.2.1	Utilize Site Plan Review assistance to help guide development.	SRICD	Towns, SRICD	SRICD has an engineer on retainer to help towns with site plan review.		South County	Alicia Lehrer	822-8832	Alicia-Lehrer@ri.nacdnet.org
1.2.2	Local communities should be encouraged to adopt the creative land use techniques from the South County Design Manual and TP 148: 'Inventory of Local Zoning Ordinances and Land Development Regulations.	SRHCC, RIDEM - Sustainable Watersheds, South Kingstown	Potential 319 funding for RIPDES Phase II requirements (I.e. stormwater mgt).	Ongoing	South County Design Manual and TP 148 printed.	Saugatucket River Watershed	Jeff Nield	222-3434x4405	jnield@dem.state.ri.us
Strategy 1.3: Eliminate pollution from the Rose Hill Landfill Superfund site.									
1.3.1	Implement the remediation plan for the Rose Hill Landfill Superfund Site as outlined in the Record of Decision.	RIDEM-Waste Management	EPA	Work commences in 2002		Rose Hill Landfill - Municipal and Bulky Waste Disposal Site	Gary Jablonski, State Project Mgr	222-2792x7148	gjablons@dem.state.ri.us

TOPIC: Natural, Cultural and Recreational Resources.									
Objective 2: Protect and natural, cultural and recreational resources through the acquisition of land in the watershed.									
Strategy 2.1: Target land acquisitions to protect important natural, cultural and recreational resources in the watershed.									
Activity	***Action***	***Lead***	***Funding Source***	***Time period***	***Status***	***Focus Area***	***Contact Person***	***Contact Phone***	***Contact Email***
2.1.1	Target and acquire land to expand the Saugatucket River Green Corridor by participating in the South County Greenspace Project.	SRHCC	Open Space 2000, private sources	Ongoing		Saugatucket River Watershed	Dorothy Devine	401-789-7033	saugriv@aol.com
2.1.2	Work with the University of Rhode Island to clean up and manage the Hazard Plot Forest.	SRHCC, RIDEM-Sustainable Watersheds			New Activity				
Strategy 2.2: Enhance recreational opportunities within the watershed.									
2.2.1	Complete the Saugatucket River Pedestrian Walkway in the Historic Downtown Main Street District.	Town of South Kingstown, RIDOT	Town, RIDOT	2002-2004	Construction begins 2002	Saugatucket River Watershed			
2.2.2	Develop an overlook park on River Street, Wakefield.	SRHCC, Town of South Kingstown	Funding needed.		Land acquired. Design charrettes held in 2-2000.				
2.2.2	Remove invasive species at potential site of overlook park and replant with native species.	SRHCC, RIDEM	Funding needed.						
2.2.3	Develop a trail map for the watershed.	SRHCC	Funding and assistance needed.		In progress	Saugatucket River Watershed	Dorothy Devine	401-789-7033	saugriv@aol.com
2.2.4	Obtain conservation easements for trails and rights-of-way in the watershed.	SRHCC	Collaboration with BSA and AMC	Ongoing	New Activity		Dorothy Devine	401-789-7033	saugriv@aol.com
2.2.5	Continue development of a self-guided walking tour of the watershed.	SRHCC	Collaboration with National Park Service				Dorothy Devine	401-789-7033	saugriv@aol.com

TOPIC: Sustainable Economic Development									
Objective 3: Build a strong local economy through the promotion of the environment and heritage of the Saugatucket River.									
Strategy 3.1: Promote redevelopment of old, neglected and contaminated sites in the watershed.									
3.1.1	Identify sites used for underground storage tanks and investigate opportunities for clean-up and redevelopment.				New Activity				
3.1.2	Focus mill village revitalization efforts on the amenities of the river.	SRHCC, Friends of Peace Dale, Historic Downtown Merchants Association							